

# PATHWAYS

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## DISCIPLINE

Scores of philosophers, educationists and psychologists have discussed, and shared their views on this topic. There have been millions of books and write-ups on this subject in order to enhance the quality of living of individuals. It still continues to be one of the hottest selling topics, all over our planet, among the human species. Yet, this problems remains an enigma and each one interprets it in his/her own way!!

Below, we have attempted to present an explicit and complete frame-work on discipline.....

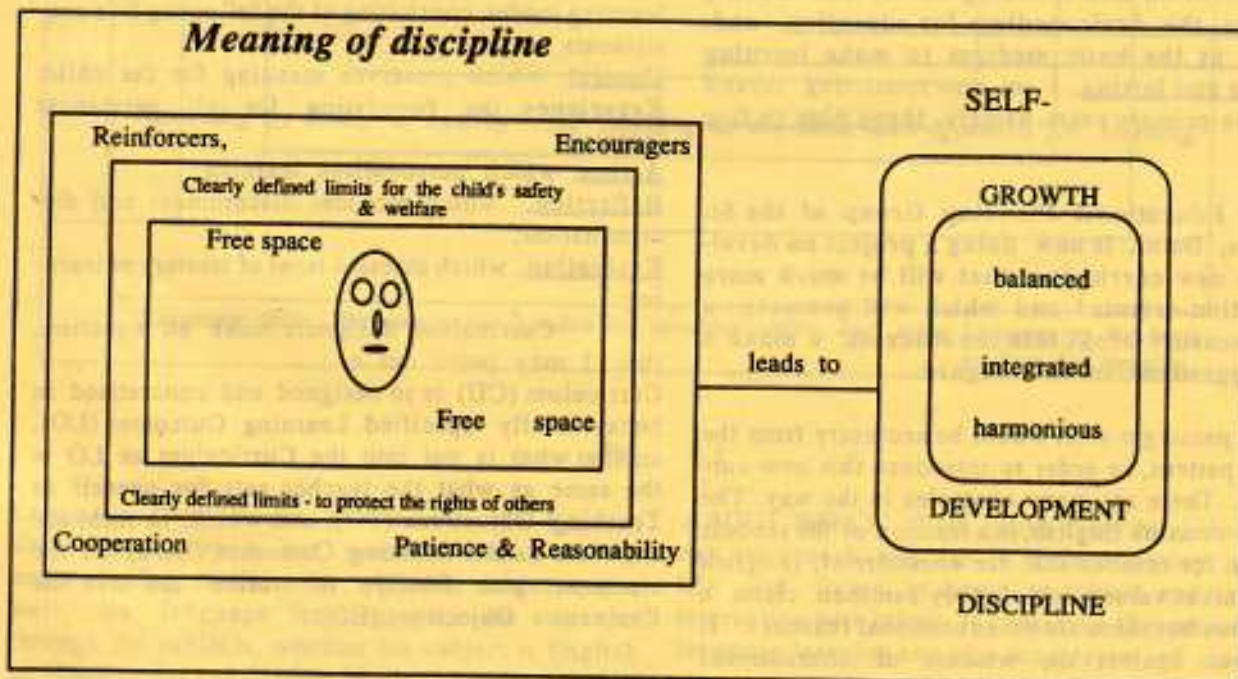


fig. 1

Try and analyse this conceptual definition of discipline, give your own meanings to this till the next issue of the Pathways, when we would explicitly analyse and discuss this!

Till then Happy interpreting, and celebration !!!!!!!!!!!!!!!

**Wish you a very happy and prosperous festival season!!!!**



# LEARNING JOYFULLY AND MEANINGFULLY, WITHOUT BURDEN.

Fr. T.V. Kunnunkal,

S.J.

Is it possible? Or a dream?

I think it is not only possible, but most urgent to save this and the coming generations. I am now addressing myself to the distressing situation that obtains in the vast majority of schools, whether Government or Private or very public and high-fee charging. The challenge before us is to find ways of introducing more meaning, more joy, more activity, and the development of more competence and skills in the very young, in place of the very boring drudgery of writing alphabets and numbers and endlessly repeating and memorizing by rote learning. The recent report on it, by the Yashpal Committee, highlighted this and made several specific recommendations.

Several schools have already moved in the direction of introducing an alternative curriculum. A curriculum that is activity based, which promotes learning related to life and environment, which develops basic linguistic skills of listening comprehension and speaking ability and making language the basic medium for education, and, activity as the basic medium to make learning effective and lasting. I am now restricting myself to the pre-primary years, namely, three plus to five plus.

The Educational Planning Group of the St. Xavier's, Delhi, is now doing a project on developing a new curriculum that will be much more application-oriented and which will promote a great measure of skills in the students. I make a few suggestions in this regard.

A basic paradigm shift would be necessary from the present pattern, in order to introduce this new curriculum. There are many obstacles in the way. The medium remains English, in a fraction of the schools of India, for reasons that are commercial, (English has a market value); social (they can then claim a club status but there are no educational reasons). It also goes against the wisdom of international practice. Prescription of books in the nursery and kindergarten admirably suits the book publishers. Parents want to see performance and it is so very easy to show performance, by forcing the

children, whose muscles are not yet sufficiently developed, to write alphabets and numbers. *(Both these writing activities, ironically, have no relation at this stage of development, to learning well, either Language or Mathematics in the later stages!)*

The paradigm shift will be along the following lines :

**From learning mainly by rote to learning by doing.**  
**From working alone mostly to working in small groups.**

**From mostly teacher talk to mostly student activity.**

**From subject-wise learning to integrated curriculum.**

**From written home work to most learning done in class.**

**From rote skills (useless for life) to real competence.**

A conceptual framework is presented in the following page (fig. 2).

Or to introduce another paradigm or effective learning model, consisting of the following five constituents :

**Context**, which preserves meaning for the child;  
**Experience**, the foundation for all permanent learning;

**Action**, which personalises learning;

**Reflection**, which provides discernment and discrimination;

**Evaluation**, which assesses level of mastery of learning;

Curriculum designers make an equation, that I may point out as :

Curriculum (CU) is so designed and concretised in behaviourally specified Learning Outcomes (LO), so that what is put into the Curriculum as LO is the same as what the teacher sets for oneself as Teaching Objectives (TO), and which, in turn, are the same as the Learning Outcomes (LO's) for the students, and finally, the same are also the Evaluation Objectives (EO).

So the equation is as follows :

$$CU = TO = LO = EO$$



## A conceptual framework of the new curriculum.....

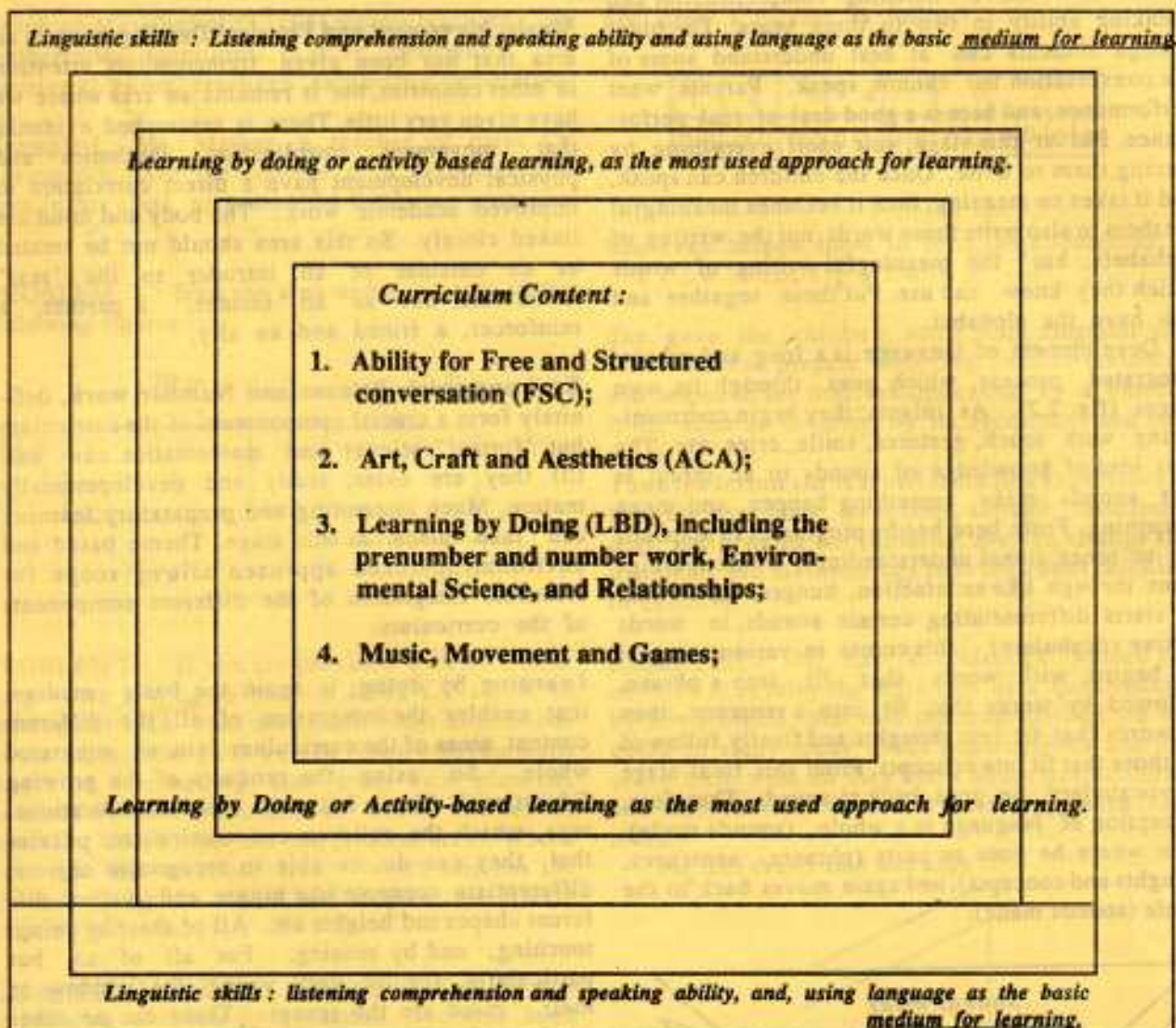


fig. 2.1

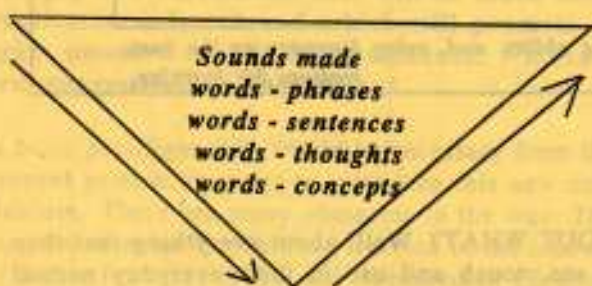
Language development, as shown in the diagram above, is a subject but more than that, is the **underpinning medium for all other subjects**, as well. So language learning goes on, in and through the subjects, whether the subject is English or Hindi or Art and Craft or Music and Movement or EVS or number work. However, at this stage of development, the emphasis will be on listening comprehension and speaking ability.

**ABOUT WHAT?** Well, about everything that they can see, touch and use in their everyday normal life and living, at home, at school and in their interaction with others. It preserves the meaning in language learning and also the interest of students. You can see that this will give them a very large and solid start, a big active vocabulary of three or four hundred lexical items, consisting of words and phrases and which can be put together into



sentences. What today the average college student, even those doing BA(English) in most parts of the country cannot do, these children will then be able to do, in terms of listening comprehension and speaking ability in two to three years. The older college students can at best understand some of the conversation but cannot speak. Parents want performance, and here is a good deal of real performance. But at this stage, you spoil everything by forcing them to write. Once the children can speak, and it takes on meaning, then it becomes meaningful for them to also write those words, not the writing of alphabets, but the meaningful writing of words which they know and use. Put these together and you have the alphabet.

Development of language is a long and whole/integrated process, which goes through its own stages (fig. 2.2). As infants, they begin communicating with touch, gestures, smile, cries, etc. The first idea of knowledge of sounds to an infant is that sounds make something happen, and mean something. From here he/she progresses to responding to tones (tonal understanding), where feelings come through like satisfaction, hunger, etc. Then, he starts differentiating certain sounds, in words (active vocabulary) - this comes in various stages; he begins with words that fit into a phrase, followed by words that fit into a sentence, then by words that fit into thoughts and finally followed by those that fit into concepts. From this final stage of vocabulary, he goes back to sounds. Therefore, perception of language is a whole, (sounds made), from where he goes to parts (phrases, sentences, thoughts and concepts), and again moves back to the whole (sounds made).



*Development of language : fig. 2.2*

**Art, Craft, and Aesthetic Development** which is another area of learning and doing, whether through cutting, pasting, painting, clay or plasticine modeling, building or any other.

There is plenty of scope here for the creative teacher to allow the children's creative energies to be channelised.

**Music, Movement and Physical Development**, is an area that has been given tremendous attention in other countries, but it remains an area where we have given very little. There is researched evidence that movement, coordination, rhythmic and physical development have a direct correlation to improved academic work. The body and mind are linked closely. So this area should not be treated as an outsider or an intruder to the "real" curriculum, but as an insider, a partner, a reinforcer, a friend and an ally.

**Environmental Science and Number work**, definitely form a crucial component of the curriculum but "formal" science and mathematics can wait till they are older, ready and developmentally mature. Much interesting and preparatory learning can take place at this stage. Theme based and environment-linked approach allows scope for effortless integration of the different components of the curriculum.

**Learning by doing**, is again the basic medium that enables the integration of all the different content areas of the curriculum into an integrated whole. So, using the products of the growing Educational Toys Industry, provide educational toys, which the children can manipulate, puzzles that they can do, be able to recognise objects, differentiate concepts like bigger and smaller, different shapes and heights etc. All of these by doing, touching, and by sensing. For all of us, but particularly, for the very young, the window to their mind are the senses. There are no other windows for them.

Let me conclude with a quotation from Dag Hammarskjöld, thinker, mystic and former UN Secretary General :

When you dare an Yes, you experience a meaning;  
When you repeat your Yes, everything takes on meaning;  
When everything takes on meaning,  
How can you live anything but an Yes?

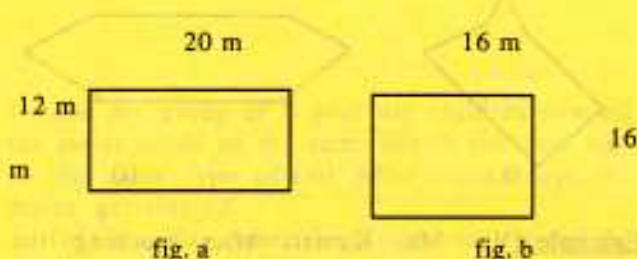


## EXPLORING THE JOYS OF MATHEMATICS!!!!

Teaching of mathematics is not merely teaching of mathematical operations. It is an opportunity to develop thinking, creativity, exploration and discovery.

**Example I:** Ms. Mathur, a teacher of class IV having discussed the concept of a perimeter and area in her class, presented the following problems :

**PROBLEM I :** Find the area and perimeter of the following figures :



**PROBLEM II :** If you are provided with 64 metres long wire netting to make a fence for a plot of rectangular land, what are the different dimensions of the rectangular plots we can fence with this much length of wire netting. How many such plots can be made if the sides are all in whole number of metres? Which one has the greatest area? Which one has the smallest area? Which one has the shortest length? Which one is good for cricket bowling practice?

**Example II :** Mrs. Sarkar, teaching in class VI was introducing division by a fraction. The text book used the method of multiplying by the reciprocal such as :

$$6 \div \frac{2}{3} = 6 \times \frac{3}{2} = 9$$

This is good enough as the mechanics of carrying out the operations to get the answer. She was however, not satisfied with this and felt that the students will not understand the concept even if they succeed to get the answer correctly. This process does not involve children thinking and processing the concept in their minds. So she did the following :

She drew a picture as follows :

1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0

She even helped them to form these sentences:

$$8 \times 2 = 16 \text{ and } 8 \div \frac{1}{2} = 16$$

She gave the children some more diagrams and asked them to prepare their own number sentences and helped to see that multiplication by a number is the same as dividing by its reciprocal and vice versa.

Thus the lesson she learned from this experience is that the text book problems, though sometimes may not provide for thinking, she can change the problems and methodology to bring about thinking in children.

**Example III :** Ms. Lal in class IV wanted the children to develop the definition of a quadrilateral by her students. She told the students that we are going to study today about quadrilaterals and she asked them what do they know about quadrilaterals and the children answered that they have four sides.

Ms. Lal draws this and asks :



"is this a quadrilateral?"

Children answer "No. The line segments have to connect."

Ms. Lal : Is this a quadrilateral?





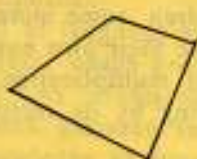
children : No. It can't cross.

Ms. Lal : What about this then?



Children : No. It has to close.

Ms. Lal : Then, is this a quadrilateral?



Children : Yes.

Ms. Lal : In the four figures, you say that three of them are wrong. Only one is correct. So what makes a quadrilateral?

Children : 4 sides, 4 points, no more intersections, closed curve.

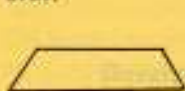
Ms. Lal : So a quadrilateral is the union of four line segments joining at four points such that the segments intersect at the end points.

Now which of the above figures agree to this definition?

Ms. Lal draws the figures (fig. a - i), and asks the following:

Which of these are quadrilaterals?

Allow the children to discuss each of the figures and compare with the definition of the quadrilateral.



(a)



(b)



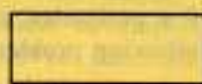
(c)



(d)



(e)



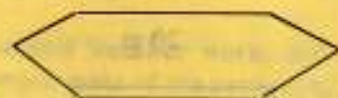
(f)



(g)



(h)



(i)

**Example IV :** Ms. Kumar, after teaching the solution of quadratic equations gave the class X students the following problem and asked them to solve the problem in pairs. Find all values of  $x$  for

$$\frac{x^2 - 9x + 20}{(x - 5x + 5)} = 1$$

The students found the problem too complicated. Having found two quadratics in the same equation, many of them felt it as a very difficult problem. Ms. Kumar moving between groups observed different groups attempting in different ways.

Raj said  $x^2 - 9x + 20$  is zero, then the equation will have a value one whatever may be the base. Raj & Sheila solved

$x^2 - 9x + 20 = 0$  and got  $x = 5$  and  $x = 4$ . Applying these values in the larger equation, they got values 1 for  $x = 5$  and  $x = 4$ . They were quite satisfied with their work. Mrs Kumar asked "Are there other possible ways that a number with any other exponent could make the equation correct. Sheila said "yes" the base could be one. So they solved

$x^2 - 5x + 5 = 1$  and they got  $x = 1$  and 4. They applied these values and found that these also worked. They said that  $x = 1$ ,  $x = 4$  and  $x = 5$  are the solutions for the equation.



Mrs Kumar asked them to think more possibilities so that a number with an exponent could be one. They thought for a while and said "yes". If the base is -1 and the exponent is an even number it will work. So they solved

$$x - 5x + 5 = -1 \text{ and}$$

got  $x = 2$ ,  $x = 3$ . They tried these values in the larger equation and it worked. Thus they got  $x = 1, 2, 3, 4$ , and  $5$  all of which are solutions for the problem given. They could not find any other answer. See how help and support can bring in thinking process!!!!!!

## NO ALTERNATIVES TO FIRST-HAND EXPERIENCES, IT SEEMS!

RAGHU BABU,  
TAPOVAN,  
ANANTPUR.

I made my group of 8 year old children sow all the maize seeds on the same day in the same way in the same type of soil. After about 8 days, the maize germinated.

On that day, when the sprouts came out of the soil, I gave all the children, straight strong sticks, and instructed them to fix them besides the sprouts and observe the growth of their plant everyday.

For the first ten days they observed the plant growth regularly. Then after every 15 days they recorded the growth of their plant. This whole process made them curious in the first ten days. After measuring, they would rush to tell me their findings: "Anna! my plant has grown only  $1/2$  a cm....." Malli informed.

"Anna! our plants have grown 1 and  $1/2$  cm...." informed Mastan and Nagaraju, with pride. Mallikarjuna said with a pathetic face, "My plant has not grown even 1 cm....." I raised a doubt, "We have sown all seeds on the same day, and all germinated the same day. Then why is this difference between the plants while they grow?"

Everybody started thinking deeply. I enquired further, "Are your plants getting sufficient water? Is the land wet or not? And can you tell me where your plants are located?" and the like...

Children inspected the land and came back - Malli told with a sad voice, "Anna! where my plant is located, there the soil is not wet enough". Mallikarjuna and Ravi selected the maize plants which are growing under the shadow of tamarind trees.

Mastan, Vijaya, Narayana and Jyothi selected those which get sufficient air, water and sunlight!!

".....So what we have learnt is, that, water is necessary for the growth of plants.....plants cannot grow under the shade....."

Thus they learnt all this through an active participation and experience!

Thereafter, along with our agricultural labourer, Narasimhalu, we all worked hard in the fields thereafter. We worked hard. We watered the plants, weeded, nurtured it with fertilisers, drove away the birds which tried to eat the corn....observed and recorded the plant growth, the flower scene, the transformation of flowers into fruits, the seed which are hidden inside the fruits.... we tasted the baby corns, we had ladies fingers and angular gourd curry in our food, and, as a result of all this, we have learnt different subjects all along we worked and enjoyed.

Many things came into our experience during the three months of crop time! Every issue struck our minds and made interesting study! We recorded every observation in a table during the three months period. Based on that table we again learnt science and maths.

Along with this we learnt about fertilisers, pesticides, pests, plant diseases, worms, birds, animals like squirrels and rats which do harm to the crops, and about thieves who steal the ripped corn in the dark!!

Implicit in this was the philosophy of Botany and Zoology, physics and chemistry!!!! However, most important learning that remains without being focussed, yet needs a lot of attention is the relationships between Nature and the living beings!



Thus if the school has a small piece of land to do agriculture, whether the school may be self-reliant or not, we can create a lot of possibilities to use it innovatively. We can have extraordinary experiences through it, which no books can satisfy!

So, teachers, irrespective of whether we feel

self-reliant or not, can we make our teaching alive??

Or do you feel we should just teach the theories, ask children to by-heart and allow children to sit for examinations ---- instead of allowing them to gain worldly knowledge and experience.....

## COOPERATIVE LEARNINGS IN THE PRIMARY CLASSES SITUA

In one of the earlier issues of our Pathways (Vol. XVI, No.2, April '94), an article on the principles, significance and the discriminate use of Cooperative learning styles was discussed. Indeed, a judicious and differential use of this technique in the classrooms, works wonders in increasing the academic performances and enhancing the school climate. Yet, one question that always comes up is, "How does one adapt this powerful method for use with students who do not write, have a limited attention span, and very few/no social skills?" In other words, with the preschoolers (approx. 3+ to 6+ of age) and the primary class children (approx. 6+ to 8+ of age).

It may be easy to suggest to use the simplest structure of this technique, take it very slowly and then adapt. However, there is something much more needed than this.

One of the most crucial and significant requirement for this is a different perspective of the preschool curriculum.

For the very young one's, specifically the preschoolers, every lesson must define a distinct social skill, and the skill is emphasised through a variety of methodologies, i.e., the social skill would get more emphasis than the academic content! This is primarily because, for this group of children, it would simply not be enough to describe the skills or assign roles, for, what they need is - to model the skills, to remind them constantly of the skills and hold them accountable for the use of the skills. In addition, at this stage, social skills, to a great extent, would form the actual curriculum (which we teachers at this level would find it difficult to accept).

Irrespective of whether we would want to admit this or no, we surely need to be conscious

of the significance of this stage in the child's life - which is the foundation for life!

Moreover, if this group of children are not given sufficient time and space to practice the basic social skills necessary for formal schooling, the purpose of all types of sophisticated cooperative learning styles in the higher classes would be defeated, thereby, not only affecting the rate of academic achievement but also the ability to get along and work amicably with the peers. So, if in these stages, they learn to support and encourage one another, listen carefully to the ideas of others, and work quietly and efficiently in groups, then they have received instruction most predictive of future academic and life success. This would take place gradually and easily provided the teacher uses her skills and knowledge of child development discretely and creatively. As mentioned earlier, these stages lay the foundations for an entire schooling experience, thus, by stressing social skills at the earliest grades we have the opportunity of providing the positive social context among the students which will lead to school success. So, if each child is motivated and knows how to help each other, in every classroom, there would 40+ teachers instead of one!

The second most crucial requirement in order to fulfill the above requirement, and also for the future success of the cooperative learning techniques is the **classroom organisational strategies/management techniques** that a teacher uses while going about with an activity, i.e., the seating styles should encourage them to consciously notice the significance of being and playing together, sharing ideas, opinions and things.

.....contd. on pg. 16.



## ALL-ROUND DEVELOPMENT - WHAT IS IT ALL ABOUT?

The most commonly used theoretical concept indeed!! Here we have attempted to derive a meaning for this, through a lesson.

The ability to look at another nation/culture/community and appreciate its contributions to the planet is crucial to our global future. So let us analyse the following lesson procedure on Social Studies.....and attempt to derive a meaning for the concept of ALL-ROUND DEVELOPMENT.

### STAGE 1: INTRODUCTION.

1. The teacher plays a series of thinking pattern games by selecting 3 students from different cultural backgrounds, all of them having atleast 3 similar attributes/characteristics, (like, all wearing glasses, sports shoes, curly hair, same heights, etc.), and then ask them to guess why this group was selected. (P.N.: They may discover many more other common attributes!).
2. Next, she would show them a group of 10 items from a culture they are familiar with, which are classified into 3 groups, on the basis of colour, shape, texture, size, etc. For e.g. clothes, ornaments etc. The students are then asked to guess the scheme of classification, and ask them to tell why these items are put together in the same group.
3. Next, the teacher would show them a list of key persons from a culture they are familiar with like, Mahatma Gandhi, Nehru, Sardar V. Patel, Bhagat Singh, Indra Gandhi, etc, which are rank ordered in 3 different ways, (like on the basis of best known to least known, dates of death, etc. Also, ask them to guess the rank ordering rationale.

### STAGE 2: PRACTICE

4. Next the teacher introduces the web chart (fig.3.1) to the students and explains this to be a diagram that can help us describe the attributes/characteristics of a thing. Then they are asked to imagine for a while that the school is a culture.

The teacher draws the web (fig. 3.1) on the board and invites them to brainstorm the characteristics/attributes of their school. Along

with this the teacher reminds them that the key in brainstorming is to accept all ideas, and there are no wrong answers, so long as they are the answers to that question.



fig. 3.1 web-chart

The teacher encourages and motivates them to keep thinking until there are atleast 25 items on the web.

4. Now, she introduces them to the system of classification by saying, when we group similar things, it increases our understanding of them. The students are quickly instructed to classify the brainstorm list of school characteristics in four groups - economic, political, social and symbolic. (fig. 3.2).

	economic	political	social	symbolic

fig. 3.2 classification chart

One of the teams is then asked to share their classification chart, while the others note down similarities and differences.

5. Next, the teacher introduces rank-ordering by saying, when we rank order things we order them according to how important we think each item is, in every group. Thus, they are then asked to do the same for each category on their classification charts, i.e., each team would decide which item is most important for the school and mark that as 1, followed by 2 and so on, on another classification chart, or on a ladder (fig.3.3) again, a few groups would be invited to share.



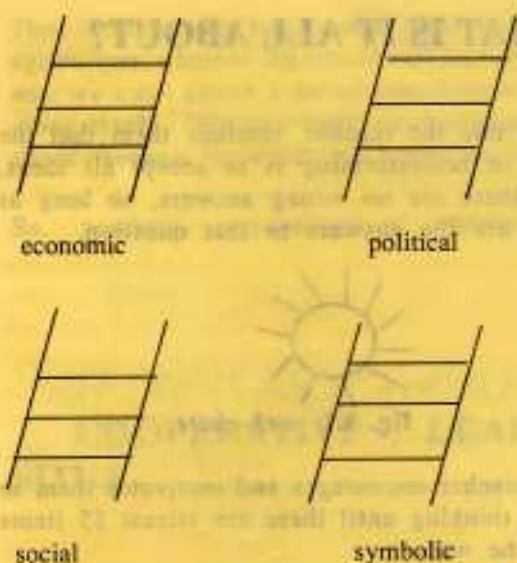


fig. 3.3 rank order ladder

6. The teacher makes them aware that till now they have been teasing their brains and thinking processes; now they will apply the same to the new lesson that they are going to begin with. The teacher recapitulates the 3 skills/processes of webbing, classifying and rank ordering by asking students some relevant questions like,
  - Which of the three process was easiest?
  - Which of the three was most difficult?
  - How did they feel about doing this, and so on..

### STAGE 3 : TEACHING

7. The same teams are told to continue, with each team member assigned responsibilities, like reinforcers/time-keeper, recorder, materials collector. They are told now that they will now be using the same exercise to study about a new culture, with the help of the following two activities.

#### ACTIVITY 1

- a. Read the appropriate section in the text book.
- b. Brainstorm and list the attributes of this culture using the web.
- c. Classify the attributes using the 4 dimensions.
- d. Rank order the first, second and third most important factor in each of the dimensions.

8. Ask them if they have any questions about the assignment. Have the person in charge to collect the materials. When they have finished, ask them to display it on the wall, for everyone to see.
9. Next, they are told that they are now going to play a game, (activity 2), with the analysis they have done on their culture.

#### ACTIVITY 2

As a team pretend that you are a travel agency that is trying to convince tourists to vacation in this culture. Using the items on your paper, your team is to create 2 items:

- A brochure advertising the features of the culture;
- A script for a T.V. ad. for the culture;

10. When the teams have completed it, they are asked to present their work to the rest of the class, as if they were sales persons from the travel agency.

### STAGE 4 : REFLECT

11. The teacher analyses, recapitulates and reflects on the lesson with the entire class by asking a few of the following types of questions :
  - Which of the three processes they enjoyed doing the most? Why?
  - Which was the least enjoyable? Why?
  - Do you have ideas about other ways you could use these in school?
12. The teacher helps them to wind up the session by asking them to share and discuss the following issues with their partners.
  - what new things they learnt about this culture?
  - what was exciting? Surprising? Distressing?
  - what would you say is that culture's greatest gift to our planet/world.
13. Finally they are instructed to write a reflection statement, which begins - "I (would/ would not), like to visit this culture some day because.....", which they are all invited to share with the rest of the class.

Well, some of the questions that emerge at this point are :

1. At what class/level can we adopt this procedure/ technique/strategy?



2. If this lesson is for the higher classes, then how would one go about with lessons for the elementary classes?
3. How long would such a lesson strategy take? Would it not be a hurdle in completion of the syllabus?
4. What would be the mode of assessment with such a teaching strategy?
5. Where is the social-studies issue tackled here?
6. What is the possibility of all-round development here?, and many more.....

Let us now attempt to resolve some of the issues that emerge as a result of such techniques.

1. Well, it would be very difficult to specify the class/level because, what is important is not the nomenclature, class VII/VIII/IX/X, but

the "readiness" to respond and learn. Yet, in the present system, we could safely say, that this lesson procedure could be appropriate for class IX/X. However even there, it would be difficult for the teacher to get 100% cooperation, because this type of a teaching strategy is new to most of the schools. But, if they are already used to similar strategies, the teacher would find it easier to handle this even with class VIII students (approx.). Again, the "readiness" factor is extremely important for it to be a success.

This lesson procedure, is definitely focussed for one class only, (say class IX). However, some suggestions and possibilities are provided for other levels, below, on the basis of the philosophy known as "spiraling" the curriculum. It implies that we can teach anything to anyone at any age, if we as teachers take the time to get inside their perceptions and speak their language that is meaningful to them at that specific age!

So for the primary levels,

1. The teacher could focus the lesson on understanding and appreciating the cultural diversity represented in the class, or invite several people from other cultures to visit the class.
2. The teacher could introduce and teach them to use a simple classification chart with the various cultures (fig.3.4), in which the teacher could make them fill in the boxes, with relevant pictures cut from old magazines or draw and for the higher classes,

culture	clothing	food	language spoken
Punjab			
Kerala			
W. Bengal			

fig. 3.4

1. The teacher could focus on comparing and contrasting important similarities and differences in the values, customs, and beliefs of the three communities/cultures.
2. The teacher could use the web-chart and then introduce them to a 3-way Venn Diagram (fig.3.5), for comparison and contrast.

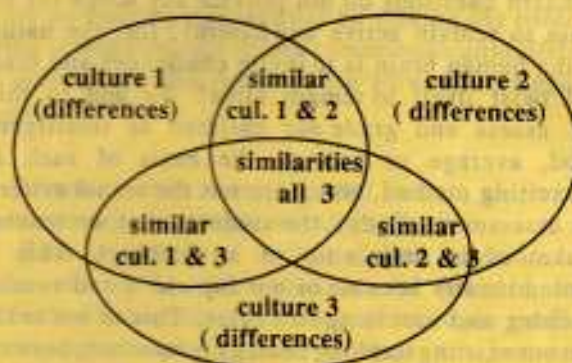


fig. 3.5

colour it themselves.

3. The teacher could ask them to role-play a debate on a current issue with the students assuming the values, beliefs and customs of the various cultures. For eg. how to achieve world peace, technology and environment, and

so on.

Thus, the possibilities are immense.

2. The second issue was on how long such a lesson procedure would take and will it come in the way of completing the syllabus.

Well, the time that such a strategy would take is incomparable to the learning and fun that would take place, making it an unforgettable experience, unlike spending 1 or 2 periods for a lesson, mugging up the questions and answers for exams and forgetting all about it after the exams!



Moreover, a teacher well-trained and refined in such teaching strategies/techniques would handle it easier, making the whole process take not more than 3 periods! For a teacher who is just beginning to adopt such strategies, it is just a matter of practice and time!!

Again completing the syllabus is a baseless argument, because it is an attempt to complete the matter in a prescribed text book, which is not developmental and age-based! There are scores of text-books increasingly available today with the topics becoming more sophisticated. **Whatever the topics/matter in any text-book, there are some specific skills, and goals underlying each of these, which have to be brought out in the classrooms, rather than reading the matter and answering the questions behind each lesson!** This routine method of simply reading, mugging and answering the standard questions do not provide any scope for the brain to remain active and healthy, for, the nature of the human brain is to invite challenges and tease and twist itself to remain alive! To add to this, we assess and grade our children as intelligent, good, average or poor on the basis of such an unexciting method, which are not the actual criteria for assessment. Today, the students that we teacher 'make' of is only a tip of an iceberg! This is predominantly because of our lop-sided and routine teaching and assessing strategies. This is not to say that our existing teaching strategy is incorrect, because **no single teaching strategy, however sophisticated and progressive, would serve to be 100% adequate** for the simple reason that the styles of learning and the **dominant sensory modalities\*** would be different for each child. Thus, a judiciously balanced use of teaching techniques catering to our group of students needs and potentials, would be the ideal way to go about. When we use a strategy/technique that can help skills emerge from each topic/lesson, we could call ourselves well-trained teachers!! Like in this lesson on learning about cultures/communities/nation, we could safely assert that an attempt to bring about all-round development has taken place. For eg. In Stage 1, the attempt is to awaken their **problem-solving** skills, which would enable them to meet new challenges and situations where a pattern discrimination ability is needed. For eg. word patterns, geometric designs, number patterns, etc.

Moreover, in the guessing of the characteristics classification and rank-ordering, in stage 1, the attempt was to trigger their **logical-mathematical intelligence**, i.e., when the brain is presented with a "hidden pattern" or rationale, its natural love of problem-solving automatically engages. It relentlessly tries to find the pattern, the rationale, or the schema to make sense out of the situation. (David Lazear, 1991, in *The Artistry of teaching with multiple intelligences*).

The tragedy in today's teaching strategies is we do not provide such opportunities for students wherein the brains inclination is to engage in such work. On the contrary, we speed up the process of stagnating the human brain's abilities!! This is indeed a very serious issue, we have to consider, lest, our species would degenerate in a few centuries from now!!

In Stage 2, the web-chart process is again an attempt to help them strengthen their ability to draw in their thinking patterns. Moreover, the teachers invitation to them to talk about their school freely, in groups would hook them with their topic of interest and also simultaneously stimulate their speaking and writing skills, their ability to cope up in groups. Specifically, the classification and rank-ordering process would define their thinking patterns, by sorting the scattered information into categories and improve their ability to prioritise.

In Stage 3, the attempt is to actually apply their skills used in stages 1 and 2, in gaining knowledge and explore the meaning of the lesson content. In this stage, finally, the attempt is to enable them to synthesise their understanding of the culture and **communicate** it to others. This is a creative thinking process.

In Stage 4, the attempt is to help them to relate the lesson content into their everyday lives, by going beyond the lesson itself. Moreover, sharing what they learned with a partner brings to consciousness the significant points of knowledge gained in the lesson.

3. The next issue, which is rather crucial for teachers is the mode of testing and assessing the students when such a teaching strategy is employed. When the students have ingested a lesson content in an enjoyable and participatory

\* every individual uses atleast one of his/her sensory medium - auditory, visual, kinesthetic, tactual - to learn and gather information about his/her environment, in other words to learn.



way, and also learnt new skills to increase the knowledge necessary for that topic, then answering any question is simply a child's play for them. Try and witness it for yourself!

In addition, their involvement, contribution and participation in the team can be assessed while the session is going on. The responsibilities assigned to the members of each team would make them more responsible, thereby increasing the production of each team.

We also further, need to shift our focus of assessment from a standard question-answer mode to assessing the skills acquired, for which, today, we may have to devise problems/questions, because they are not readily available.

4. To answer the question, whether the social studies issue is being tackled in this lesson procedure, we may need to remind ourselves as to why do we teach social studies?

Through content and experiences, the social studies are designed to develop intelligent, responsible, self-directing people who can function as members of groups - family, community, world - with which they become identified.

Specifically, the behavioural goals of this subject area could be stated as follows:

1. The students will be able to exhibit more knowledge about people and their relationships to each other and to their environment (which is the focus of the current lesson procedure.)
2. They will be able to experience human dignity and a respect for human life with an appreciation for the rights of others, personal property, honesty, and courtesy.
3. They will be able to experience and exhibit knowledge and skills necessary for the survival of individuals, groups, democratic ideas, and life itself.
4. They will be able to experience and respect the interdependence of children and adults at school, home, in the neighbourhood and in the community.
5. They will be able to make relevant choices about important economic, political, and social issues, specific to the interests of the home, school and neighbourhood (which is also focussed in the current lesson procedure.).

6. They will be able experience richer, more satisfying and personally fulfilling lives, through experiences of play and work with students of other cultures, nationalities, races and religions.

Thus, social studies is then concerned with behaviour, goals, values, skills and knowledge. The objectives may also be classified in three categories :

- : understandings, which deal with knowledge;
- : attitudes, which deal with values, appreciations, ideas and feelings;
- : and skills that must be related to the social skills of living and working together, skills that make for civic competence.

In this context, then, concepts, skills and behaviour are all interrelated.

With such an emphasis and awareness in us, we would be creating a possibility by making our contribution in reducing the future communal/cultural/ethnic differences and the negative survival strategies used!

5. To answer this issue, we must be sure of what we mean by all-round development.

This is indeed a million-dollar question..... This concept has been used on the basis of the rationale of the current theory of multiple intelligences, which implies that there is not just one form of cognition which cuts across all human thinking, but there are multiple intelligences with autonomous intelligence capacities. This theory is a result of some astonishing researches conducted in the last 30-50 years from virtually every profession and academic discipline on the explorations of a new frontier - the human mind and how it works. Some of the discoveries are astonishing, like,

1. Intelligence can be enhanced and amplified, with the only limits to our intelligence being self-made, unlike the easier view that intelligence is a fixed and static entity. Moreover, at any age, at almost any ability level, one's mental functioning can be improved.
2. There are many forms of intelligence, i.e., there are many ways by which we know, understand and learn about the world, not just one. Some of the ways we learn and understand



about our environment are :

- a. through language abilities, like speaking, poetry, metaphors, abstract reasoning, symbolic thinking, conceptual patterning, reading and writing; (**referred to as the verbal-linguistic intelligence**)
- b. by recognising patterns, working with abstract symbols, discriminating and discerning relationships, seeing connections between separate and distinct pieces of information; (**referred to as the logical-mathematical intelligence**)
- c. by visualising objects from different perspectives like in games, map-making, and architecture, which would involve the use of space and knowing how to get around in it; (**referred to as the visual-spatial intelligence**)
- d. by using the body to express emotions as in dance and body language, playing a game as in sports and games and creating a new product, in other words, learning by doing! (**referred to as the body-kinesthetic intelligence**)
- e. by using the capacities as the recognition and use of rhythmic and tonal patterns, being sensitive to sounds from the environment, the human voice and musical instruments; (**referred to as the musical-rhythmic intelligence**)
- f. by using the ability to work cooperatively with others in a group as well as the ability to communicate verbally and non-verbally with other people, which builds on the capacity to notice distinctions among others. In an advanced form of this mode, one can literally "read" the intentions of others, and "look" from another's perspective; (**referred to as the inter-personal intelligence**)
- g. by using knowledge of the internal aspects of the self such as knowledge of feelings, the range of emotional responses, thinking processes, self-reflection, and a sense of or intuition about spiritual realities. (**referred to as the intra-personal intelligence**).

All of this simply remphasise the urgent need to widen our teaching strategies from just enhancing the verbal-linguistic intelligence, so as to bring forth all the other types of intelligences into the fore-front, for, one doesn't know how a human brain will receive it best! It also implies that we involve the students in all teaching-learning processes actively and promote intelligence uniformly using concrete first-hand experiences.

\* an experience means "to taste something internally" through an activity wherein, every child in the classroom is stimulated in the sensory and/physical/intellectual/emotional/social, dimensions of life.

**In other words, there is no substitute to hard work and concrete experiences\*!!**

Thus, we could assert, at this point that all-round development would mean to equip a student with adequate and necessary skills (fig. 3.6) and, exposures to various perspectives using all the possible faculties and abilities of his/her brain to know and understand about things around, which would make the task easier for living successfully as an adult. For this we make use of the text-books and its various topics as the tools and shape it up in a way that would suit the needs of our group of children - **developmentally and characteristically**.

Last but not the least, this whole attempt and process would be defeated with an inappropriate assessing technique. Not to say that the current 'question-answer' method is inappropriate, but is definitely imbalanced, for, all the abilities of the brain is not assessed, with the result, the student portrays a lop-sided view of his/her intelligence, which not only proves to cheat the teachers and parents, but most important and crucial being himself, thus affecting his/her self-esteem - it being the sole support for his/her entire life!!

In other words, the human species has many more abilities and potentials hidden into the ice-berg, which we have to identify and bring it to consciousness.

Some of the other ways of exploring the other subject areas through this logical mathematical intelligence are as follows :

#### SCIENCE :

- a. asking students to find five different ways to classify a collection of leaves;
  - b. to practice webbing attributes of various systems of the body;
  - c. using the symbols of the Periodic Table of Elements in a story;
- and so on.....

#### MATHEMATICS

- a. finding unknown quantities in a problem;
- b. creating number sequences and have a partner find the pattern;
- c. design classification charts for math formulas and operations;



## HISTORY

- finding examples where "history repeated itself";
- comparing and contrasting different periods of history;
- creating time sequence charts with titles for major eras of history;
- predicting what the next decade will be like based on patterns of the past;

## LANGUAGE

- predicting what will happen next in a story or play;
  - analysing similarities and differences of various pieces of literature;
  - learning to read, write and decipher "code language"
- and so on.....

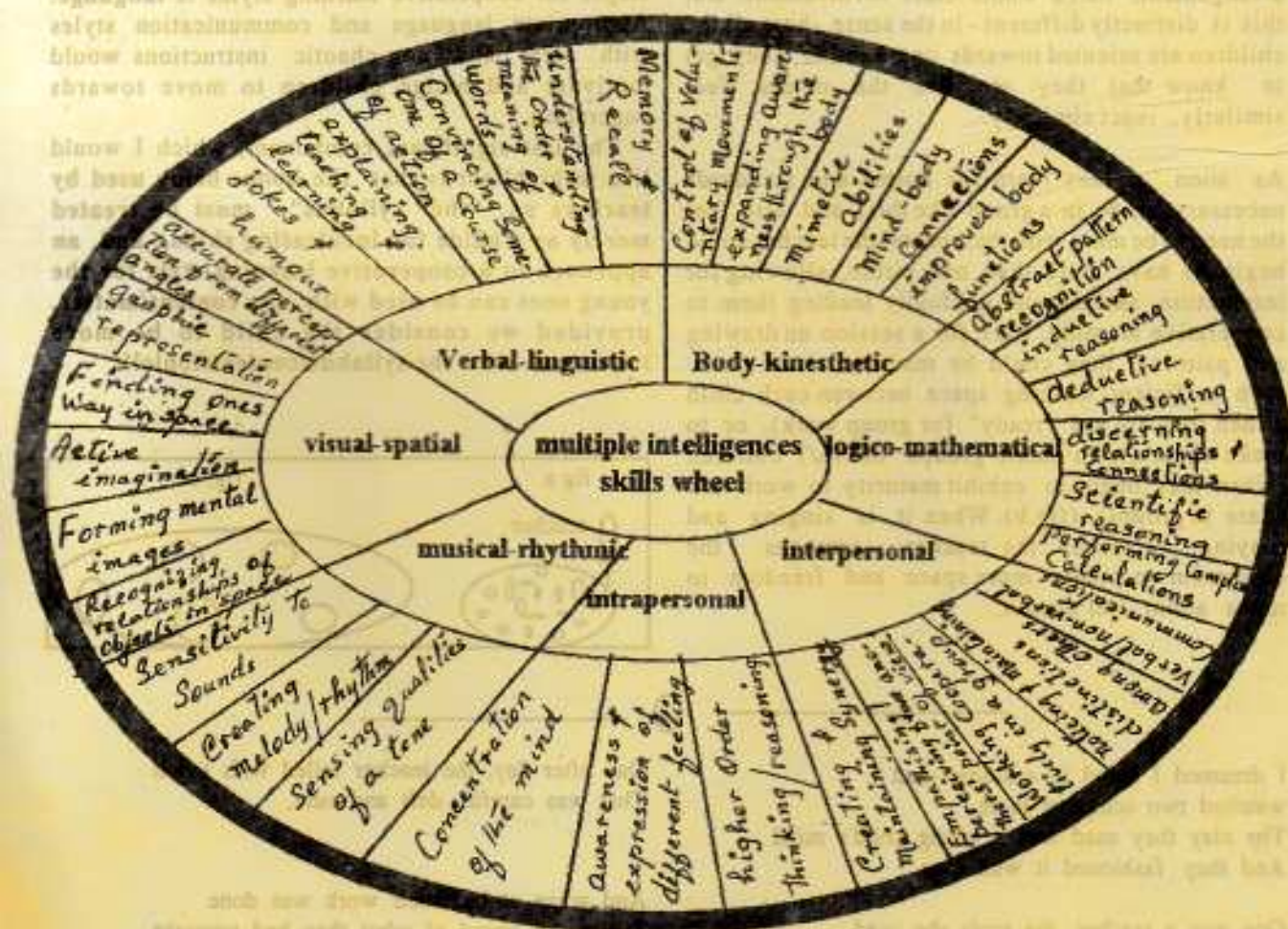


fig. 3.6 : multiple intelligences skills wheel : this could act as a guide for the teachers to enable students to bring out relevant and necessary skills in various areas.

P.N.: THERE MAY BE MANY MORE TYPES OF INTELLIGENCES AND MANY MORE SKILLS IN EACH OF THESE TYPES OF INTELLIGENCES TALKED ABOUT !!

**THERE ARE TWO BEQUESTS WE CAN GIVE  
OUR CHILDREN : ONE IS ROOTS AND THE OTHER WINGS.**



Foreg. a story session, would turn to be most valuable when the children are seated in a close-knit circle, (also referred to as the community circle), while the teacher sits on a slightly higher level, so that the aids used could be seen by every child in the group. (fig. a). Similarly a conversation session could also be optimised using the community circle, however, here, the teacher is a part of the community, not as in the story session. In such an arrangement, only one person is talking at a time, and he/she is talking to the whole class. This may apparently seem to be like the traditional seating arrangement, i.e., a whole class involvement. But this is distinctly different - in the sense - here all the children are oriented towards one another, they get to know that they are like the others, feel similarly, react similarly.

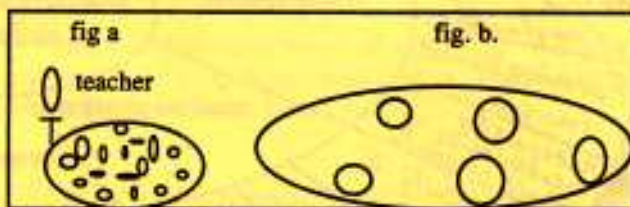
As soon as they learn the norms and standards necessary, to be in a group like this, and also feel the need to be more with their peers, the teacher could begin to have more than one circle, allowing for interaction, sharing and gradually leading them to cooperative learning. Like, for a session on drawing and painting, they could be made to sit in a row with sufficient working space between each child (when they are not "ready" for group work), or to make them sit in small groups of 5/6/7 children (when they begin to exhibit maturity to work and share in groups), (fig.b). When it is singing and playing session, the teacher arranges the classroom to create more space and freedom to move about and stretch,

lest, they feel inhibited and restricted and thus avoid participation in the activity, thus stifling their growth and development.

The other management strategies would involve using attractive pictures and cartoonings to convey instructions, like active listening time, interaction time, sharing time, look, listen, recognition and reinforcement certificates, and so on. Needless to say, the management of children in the preschool stages could turn out to be a dreadful affair if not handled skillfully!

The other crucial contributor in the foundation stages for cooperative learning styles is language. Appropriate language and communication styles with clear and non-chaotic instructions would motivate and nudge children to move towards cooperation.

The last significant component, which I would like to highlight is that the books being used by teachers as "the syllabus", must be treated merely as a guide for inculcating skills, and an approach to a cooperative learning style for the young ones can be used with any content/matter, provided we consider the child to be more important than the syllabus/content/topic!!!



I dreamed I stood in a studio, and  
watched two sculptors there.  
The clay they used was a young child's mind  
And they fashioned it with care.

One was a teacher - the tools she used  
Were book, music and art,  
The other, a parent, worked with a guiding hand  
And a gentle, loving heart.

While the parent laboured by his side  
And polished and smoothed it o'er.

Day after day, the teacher toiled with touch  
That was careful, deft and sure,

And when at last their work was done  
They were proud of what they had wrought  
For the things they had moulded into the child  
Could neither be sold nor bought.

And each agreed they would have failed  
If each had worked alone  
For behind the parent stood the school  
And behind the teacher, the home.

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